

Idaho National Engineering and Environmental Laboratory

INEEL Pollution Prevention and Waste Minimization Program Overview

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Topics for Discussion

- ***P2 Program Elements***
 - *Affirmative Procurement*
 - *Reuse and Recycling*
 - *Pollution Prevention Opportunity Assessments*
 - *Other program elements*
- ***Property Reutilization and Disposal Office***
- ***Recent Accomplishments***
- ***Issues***

Affirmative Procurement

Purchasing environmentally preferable products that are made with recoverable materials

Examples of items purchased at INEEL in FY03 with recovered content:

- **Carpet: 100%**
- **Cement: 74.3%**
- **Paint: 42.3%**
- **Garden/soaker hose: 100%**
- **Binders: 73%**
- **Plastic trash bags: 96.7%**
- **Toner cartridges: 71.4%**
- **Coated paper: 100%**

EPA currently has designated 54 items made with recycled content (7 new ones to be implemented within the year)

- **Sanitary tissue: 100%**
- **Paperboard/packaging products: 98.4%**
- **Uncoated paper: 83.7%**
- **Lubricating oil: 96.3%**
- **Engine coolant: 76.7%**
- **Industrial drums: 100%**
- **Sorbents: 100%**

Reuse and Recycling Subcontracts

Product and waste materials are processed for further use or directly used for another purpose

Issue - Current paper recycling program costs a maximum of \$40K

INEEL recycled materials include:

- ***Office paper & cardboard***
- ***Toner cartridges***
- ***Phone books***
- ***Fluorescent tubes***
- ***Oil***
- ***RCRA scrap metals***
- ***Precious metals***
- ***Clean lead***
- ***Silver containing material***
- ***Various types of batteries***

Pollution Prevention Opportunity Assessments

- ***INEEL RCRA Permit requires one PPOA per year***
- ***Identify opportunities for implementation of P2/Waste Min***
- ***Change focus to up-front project planning***
 - ***Spurred by accelerated cleanup***
 - ***Issue: time and money to segregate in an atmosphere of accelerated cleanup***

Other Program Elements

- ***Material Exchange Program***
 - ***Transfer unwanted chemicals and materials to alternate users***
- ***Material Substitution***
 - ***Replacement, reduction, or elimination of materials in production, maintenance, and cleaning processes to reduce waste***
 - ***Contributes to the reduction of waste volumes and hazardous characteristics of wastes***
- ***Waste Stream Reviews***
 - ***Review of waste determinations for P2/waste min opportunities and recommendations***

Property Reutilization and Disposal Office

- ***Referred to as the Excess Warehouse***
- ***Reuse and sale of materials and equipment***
- ***Property reuse and sale includes INEEL reuse, transfers to other government agencies, gifting, donating, and selling excess and surplus property***
- ***Statistics for FY04 to date:***
 - ***Almost 4000 items excessed***
 - ***Surplus sales grossed over \$83,000***

Property Reutilization and Disposal Office, cont.

Excess and surplus property include:

- ***Vehicles: includes light trucks, tractors, heavy equipment***
- ***Scrap metal: stainless steel, copper, carbon steel, brass, bronze, galvanized metal, aluminum***
- ***Buildings: manufactured homes and complete buildings***
- ***Computer equipment: includes modems, printers, plotters, scanners***
- ***Miscellaneous: industrial machinery, mills, lathes, drill presses, test equipment***

Recent Accomplishments

Examples of material quantities recycled:

- ***13,000 lbs of halon sent to a DOD halon repository***
- ***56 drums of sodium nitrate and 14 drums of potassium nitrate sent to U of I, other DOE labs***
 - ***Savings: \$147k disposal costs, \$450k purchasing cost***
 - ***No nitrates to CFA landfill***
- ***54 tons of calcium nitrate***
 - ***Savings: \$75k in disposal costs***
 - ***No nitrates to CFA landfill***
- ***13,000 gallons kerosene diverted to local business***
 - ***Savings: \$137k disposal costs***

Recent Accomplishments, cont.

Examples of material quantities recycled, cont:

- ***754 lbs of silver scrap***
- ***80,563 lbs RCRA scrap metal***
- ***172,000 lbs of office paper/corrugated cardboard recycled***
- ***2,424 toner cartridges***
- ***1,859 lbs of lead***
- ***61,625 lbs lead acid/gel cell batteries***

Recent Accomplishments, cont.

Research and Development:

- ***Development of community/transit shuttle bus prototype for Yellowstone National Park***
 - ***Cost-effective; low-emissions; uses natural gas***
 - ***Broad applications in municipal transit and private-sector***
- ***Evaluation and testing of biodiesel in 6 full-size, four-cycle diesel-engine buses***
 - ***Goal: Switch entire fleet to biodiesel***
- ***Evaluation and testing of an oil bypass filter technology on 8 full-size, four-cycle diesel-engine buses***
 - ***Goal: To extend oil-drain intervals, conserve oil, reduce waste oil generation***

Recent Accomplishments, cont.

Innovative Projects/Programs:

- ***Reuse/recycle of Contaminated Lead***
 - ***Memorandum of Agreement between INEEL and Idaho State University (ISU)***
 - ***99 metric tons from dismantled casks and shielding fabricated into lead bricks for reuse as radiation shielding at ISU's Accelerator Center***
 - ***In FY03, saved \$500,000 in disposal and purchase costs***
 - ***Selected by DOE-HQ as a P2 best practice***
- ***Demolition Landfill at Test Area North (TAN)***
 - ***Permitted for debris waste from D&D of TAN buildings***
 - ***Eliminates requirement to transport large quantities 30 miles.***
 - ***Saves time, transportation costs, & fuel***

Recent Accomplishments, cont.

Innovative Projects/Programs:

- ***Fleet Operations: Received recognition from state for P2 leadership.***
 - ***Solvent-free operation (solvent substitution; hot water parts washer)***
 - ***Freon recovery***
 - ***Computerized paint system; less toxic paint***
 - ***Energy efficient building***
 - ***Aluminum wheels on buses***
 - ***Recycle used oil, metals, lead, tires***
 - ***Non-hazardous coolant***
 - ***Elimination of aerosols***

Issues

- ***Current budget is minimal and uncertain; need to do more with less***
- ***Accelerated cleanup vs recycling***
 - ***time and money to segregate in an atmosphere of accelerated cleanup***
 - ***DOE's 2005 P2 recycling goal may be in jeopardy***
- ***Material Exchange database is inadequate:***
 - ***More easily accessible***
 - ***Linked to procurement process***
- ***Hazardous Solvent Substitution database is extinct***
- ***DOE Secretarial 2005 P2 goals complicated by upcoming split in missions (lab and cleanup)***